

Claims

1. A band stop filter (300; 400; 500), which comprises a transmitting line (320; 420) with a center and outer conductor and coaxial resonators (R1, R2, R3), which form a unitary conductive housing, the inner space of which is divided by
5 conductive partition walls into resonator cavities, each of which resonators separately has an electromagnetic coupling to the transmitting line, arranged by a coupling element to form an attenuation peak in the response curve of the filter, the natural frequencies of the resonators differing from each other to shape the response curve of the filter further, **characterized** in that in order to reduce the
10 number of structural parts and conductor junctions, the center conductor (321; 421; 521; 621; 771) of the transmitting line, or the transmitting conductor, is located inside said housing, running through openings in said partition walls across all the resonator cavities, in which case the housing (310; 410; 610) at the same time is the outer conductor of the transmitting line, and a portion of the
15 transmitting conductor in a resonator cavity at the same time is said coupling element.
2. The band stop filter according to Claim 1, **characterized** in that the transmitting conductor is a unitary rod-like piece.
3. The band stop filter according to Claim 1, **characterized** in that the
20 transmitting conductor (321; 521) runs beside inner conductors (301) of the resonators.
4. The band stop filter according to Claim 1, **characterized** in that the transmitting conductor (421) runs above inner conductors of the resonators.
5. The band stop filter according to Claim 1, **characterized** in that the
25 resonator-specific coupling element includes, in addition to a portion of the transmitting conductor, a conductor (541; 542; 543) connecting it galvanically to a bottom of the housing.
6. The band stop filter according to Claim 2, **characterized** in that the distance
30 between the inner conductor of at least a first resonator and the transmitting conductor differs from the distance between the inner conductor of a second resonator and the transmitting conductor to adjust the strength of the couplings and thus to shape the response curve of the filter.

7. The band stop filter according to Claim 1, **characterized** in that at least a distance between inner conductors of two successive resonators differs from another distance between inner conductors of two sequential resonators to match the impedance of transmitting path formed by the filter.
- 5 8. The band stop filter according to Claim 1, **characterized** in that there is an additional cavity in its housing for some additional function, and said transmitting conductor also runs across the additional cavity.
9. The band stop filter according to Claim 8, **characterized** in that the transmitting conductor (770) has in the additional cavity relatively thick and thin
10 portions by turns, in which case said additional function is low-pass filtering.